

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An integrated circuit arrangement, comprising:

a set of contact pads arranged in a pattern;

a multi-layer conductive structure which electrically connects the set of contact pads to at least one signal line, wherein the conductive structure provides impedance matching between the pads and the at least one signal line; the conductive structure is multi-tiered and includes conductors disposed in a parallel orientation to a top surface of the pads, and vias connecting the conductors to the signal line and the pads; wherein the multi-tiered conductive structure includes a pyramidal shape having its base at the pads.

2. (Original) The arrangement as recited in claim 1, wherein the set of contacts includes a row of spaced apart pads having a first pitch.

3. (Original) The arrangement as recited in claim 2, wherein the signal line includes at least two signal lines spaced apart having a second pitch, wherein the conductive structure provides a smooth impedance transition between the signal lines and the pads.

4. (Original) The arrangement as recited in claim 3, wherein the first pitch and the second pitch are standard pitches and the transition of the conductive structure enables operating frequencies 50% or more over standard via connections.

5. (Currently Amended) The arrangement as recited in claim 1, wherein the conductive structure includes two vias on each contact pad.

6. (Original) The arrangement as recited in claim 1, wherein the conductive structure includes a conductor disposed in a parallel orientation to a top surface of the pads, and a via connecting the conductor to the signal line.

7-11. (Cancelled)

12. (Currently Amended) ~~The arrangement as recited in claim 10;~~ An integrated circuit arrangement, comprising:

_____ a set of contact pads arranged in a pattern;
_____ a multi-layer conductive structure which electrically connects the set of contact pads to at least one signal line, the conductive structure provides impedance matching between the pads and the at least one signal line; the conductive structure is multi-tiered and includes conductors disposed in a parallel orientation to a top surface of the pads, and vias connecting the conductors to the signal line and the pads; wherein the multi-tiered conductive structure includes a plurality of vias at each connection point between conductors and/or pads wherein adjacent vias at a same tier are oriented one behind the other in a parallel direction with respect to the at least one signal line.

13. (Currently Amended) An integrated circuit arrangement, comprising:

a set of contact pads arranged in a pattern;

a multi-layered conductive structure which electrically connects the set of contact pads to at least one signal line, wherein the conductive structure includes vertically disposed vias and horizontally disposed conductors arranged and shaped to provide impedance matching between the pads and the at least one signal line; the conductive structure is multi-tiered and includes conductors disposed in a parallel orientation to a top surface of the pads, and vias connecting the conductors to the signal line and the pads, the multi-tiered conductive structure includes a plurality of vias at each connection point between conductors and/or pads wherein adjacent vias at a same tier are oriented one behind the other in a parallel direction with respect to the at least one signal line.

14. (Original) The arrangement as recited in claim 13, wherein the set of contact pads includes a row of spaced apart pads having a first pitch.

15. (Original) The arrangement as recited in claim 14, wherein the signal line includes at least two signal lines spaced apart having a second pitch, wherein the conductive structure provides a smooth impedance transition between the signal lines and the pads.

16. (Original) The arrangement as recited in claim 15, wherein the first pitch and the second pitch are standard pitches and the transition of the conductive structure enables operating frequencies 50% or more over standard via connections.

17. (Original) The arrangement as recited in claim 13, wherein the conductive structure includes two vias connecting to each contact pad.

18. (Original) The arrangement as recited in claim 13, wherein the conductive structure includes the conductors disposed in a parallel orientation to a top surface of the pads.

19-22. (Cancelled)

23. (Currently Amended) ~~The arrangement as recited in claim 22,~~ An integrated circuit arrangement, comprising:

a set of contact pads arranged in a pattern;
a multi-layered conductive structure which electrically connects the set of contact pads to at least one signal line, the conductive structure includes vertically disposed vias and horizontally disposed conductors arranged and shaped to provide impedance matching between the pads and the at least one signal line; the conductive structure is multi-tiered and includes conductors disposed in a parallel orientation to a top surface of the pads, and vias connecting the conductors to the signal line and the pads, wherein the multi-tiered conductive structure includes a pyramidal shape having its base at the pads.

24. (Cancelled)

25. (Currently Amended) An integrated circuit package, comprising:

a set of dielectric layers having a top surface;

a top contact array on the top surface;

a conductive structure extending between the top contact array and a set of output contacts, the conductive structure is multi-tiered and includes conductors and vias connecting the conductors to the output contacts and the contact array and the multi-tiered conductive structure includes a pyramidal shape having its base at the pads,

wherein a signal travels on a path from the top contact array to the set of output contacts, and an impedance is balanced on the path of the signal in accordance with the conductive structure.

26. (Original) The package as recited in claim 25, wherein the set of output contacts are disposed in a row a first spacing pitch.

27. (Original) The package as recited in claim 26, wherein the contact array includes a second spacing pitch, wherein the conductive structure provides a smooth impedance transition between the contact array and the output contacts.

28. (Original) The package as recited in claim 27, wherein the first pitch and the second pitch are standard pitches and the transition of the conductive structure enables operating frequencies 50% or more over standard via connections.

29. (Original) The package as recited in claim 25, wherein the contact array includes a centrally disposed pad and two pads adjacent to the centrally disposed pad, wherein the two pads connect to the conductive structure each by a conductor disposed in a parallel orientation to a top surface

of the two pads, and vias connecting each conductor to output contacts, wherein each conductor brings a connection point to a corresponding via closer to the centrally disposed pad.

30. (Original) The package as recited in claim 29, wherein the centrally disposed pad includes a conductor, and the pads are in a row and the conductors and their corresponding vias are offset from a line in the row.

31-32. (Cancelled)

33. (Currently Amended) ~~The package as recited in claim 31,~~ An integrated circuit package, comprising:

a set of dielectric layers having a top surface;

a top contact array on the top surface;

a conductive structure extending between the top contact array and a set of output contacts, the conductive structure is multi-tiered and includes conductors and vias connecting the conductors to the output contacts and the contact array, wherein the multi-tiered conductive structure includes a plurality of vias at each connection point between conductors, output contacts and/or the contact array wherein adjacent vias at a same tier are oriented one behind the other in a parallel direction with respect to the at least one signal line; and wherein a signal travels on a path from the top contact array to the set of output contacts, and an impedance is balanced on the path of the signal in accordance with the conductive structure.